

## Claims

What is claimed is:

- 1           1.     A method for implementing autonomous variation of media  
2     dismount time in a robotic media library comprising the steps of:  
3             monitoring I/O requests to the robotic media library,  
4             gathering performance statistics for said I/O requests to the robotic  
5     media library; and  
6             periodically checking said gathered performance statistics to  
7     determine a change value needed for the media dismount time.
  
- 1           2.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 1 wherein the step of monitoring I/O  
3     requests to the robotic media library includes the step of maintaining an I/O  
4     operations count.
  
- 1           3.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 1 wherein the step of gathering  
3     performance statistics includes the steps of maintaining a media hit count  
4     where a data storage medium (DSM) for said I/O request is in a robotic  
5     media drive.
  
- 1           4.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 3 includes the steps of maintaining a media  
3     near miss count where said DSM for said I/O request is in transit from said  
4     robotic media drive.
  
- 1           5.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 2 wherein the step of periodically checking  
3     said gathered performance statistics to determine said change value needed  
4     for the media dismount time includes the step of identifying a first threshold  
5     number of I/O requests, checking said gathered performance statistics to  
6     determine if an increase is needed for the media dismount time.

1           6.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 5 includes the step of determining said  
3     increase is needed for the media dismount time if the near miss count is  
4     greater than the hit count; or if a ratio of the near miss count and hit count is  
5     greater than a set value.

1           7.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 5 includes the step of identifying a second  
3     threshold number of I/O requests, checking said gathered performance  
4     statistics to determine if a decrease is needed for the media dismount time.

1           8.     A method for implementing autonomous variation of media  
2     dismount time as recited in claim 7 includes the step of determining said  
3     decrease is needed for the media dismount time if the near miss count is  
4     near zero, or if a ratio of the near miss count and hit count is less than  
5     another set value.

1           9.     Apparatus for implementing autonomous variation of media  
2     dismount time in a robotic media library comprising:  
3         a plurality of event counters;  
4         a performance measurement media dismount time control program  
5     for monitoring I/O requests to the robotic media library, for controlling said  
6     event counters to maintain a count of I/O operations executed, a count of  
7     media hits where a data storage medium (DSM) for said I/O request is in a  
8     robotic media drive, and a count of media near misses where the DSM for  
9     said I/O request is in transit from said robotic media drive; and  
10        said performance measurement media dismount time control program  
11     for periodically checking said counts of media hits and media near misses to  
12     determine a change value needed for the media dismount time.

1           10.    Apparatus for implementing autonomous variation of media  
2     dismount time in a robotic media library as recited in claim 9 wherein said  
3     performance measurement media dismount time control program for  
4     periodically checking said counts includes said performance measurement  
5     media dismount time control program identifying a first threshold number of  
6     I/O requests, checking said counts of media hits and media near miss to  
7     determine if an increase is needed for the media dismount time.

1           11.   Apparatus for implementing autonomous variation of media  
2   dismount time in a robotic media library as recited in claim 10 wherein said  
3   performance measurement media dismount time control program increases  
4   the media dismount time if the near miss count is greater than the hit count,  
5   or if a ratio of the near miss count and hit count is greater than a set value.

1           12.   Apparatus for implementing autonomous variation of media  
2   dismount time in a robotic media library as recited in claim 10 wherein said  
3   performance measurement media dismount time control program for  
4   periodically checking said counts includes said performance measurement  
5   media dismount time control program identifying a second threshold number  
6   of I/O requests, checking said counts of media hits and media near miss to  
7   determine if a decrease is needed for the media dismount time.

1           13.   Apparatus for implementing autonomous variation of media  
2   dismount time in a robotic media library as recited in claim 12 wherein said  
3   performance measurement media dismount time control program decreases  
4   the media dismount time if the near miss count is near zero, or if a ratio of  
5   the near miss count and hit count is less than a set value.

1           14.   A computer program product for implementing autonomous  
2   variation of media dismount time in a robotic media library in a computer  
3   system, said computer program product including instructions executed by  
4   the computer system to cause the computer system to perform the steps of:  
5       defining a set of event counters;  
6       monitoring I/O requests to the robotic media library,  
7       controlling said event counters to maintain a count of I/O operations  
8   executed, a count of media hits where a data storage medium (DSM) for  
9   said I/O request is in a robotic media drive, and a count of media near  
10   misses where the DSM for said I/O request is in transit from said robotic  
11   media drive; and  
12       periodically checking said counts of media hits and media near  
13   misses to determine a change value needed for the media dismount time.

1           15. A computer program product for implementing autonomous  
2 variation of media dismount time as recited in claim 14 wherein the step of  
3 periodically checking said counts of media hits and media near misses to  
4 determine a change value needed for the media dismount time includes the  
5 steps of identifying a first threshold number of I/O requests, checking said  
6 counts of media hits and media near miss to determine if an increase is  
7 needed for the media dismount time.

1           16. A computer program product for implementing autonomous  
2 variation of media dismount time as recited in claim 15 wherein the step of  
3 checking said counts of media hits and media near miss to determine if an  
4 increase is needed for the media dismount time includes at least one step of  
5 checking if the near miss count is greater than the hit count or checking if a  
6 ratio of the near miss count and hit count is greater than a set value.

1           17. A computer program product for implementing autonomous  
2 variation of media dismount time as recited in claim 15 includes the steps of  
3 identifying a second threshold number of I/O requests, checking said counts  
4 of media hits and media near miss to determine if a decrease is needed for  
5 the media dismount time.

1           18. A computer program product for implementing autonomous  
2 variation of media dismount time as recited in claim 17 wherein the step of  
3 checking said counts of media hits and media near miss to determine if a  
4 decrease is needed for the media dismount time includes at least one step  
5 of checking if said near miss count is near zero or checking if a ratio of the  
6 near miss count and hit count is less than a set value.